DEKRA Testing and Certification
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Antenna Measurement Report

Model: VXD01
Trademark VAXEE
Manufacturer name / address VAXEE Corporation No. 61-3, Sec. 2, Jiayuan Rd., Shulin Dist., New Taipei City 23804 , Taiwan
Antenna Type : VAXEE VXD01 Antenna
Tested by (name / position & signature) Saul Wang / Engineer 2023/1/6
Approved by (name / position & signature) Lorien Chang / Manager 2023/1/6
Date of issue 2023/1/6

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Competences and guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

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The results presented in this Test Report apply only to the particular item under test established in this document.

General conditions

1.This report is only referred to the item that has undergone the test.

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Data provided by the client

The following data has been provided by the client:

1. No

DEKRA Testing and Certification declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Testing period and place

Test Location	DEKRA Testing and Certification No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411 , Taiwan
Date (start)	2023/1/5
Date (finish)	2023/1/5

Document history

Report number	Revision	Date	Description
22C0885R-A324310010-A	Rev. 1.0	2023/1/6	First release

Environmental conditions

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	22 °C – 28 °C
Relative Humidity air	< 60%

Testing verdicts

Not applicable:	N/A
Pass:	P
Fail:	F
Infomation:	Info
Not measured:	N/M

Used Equipment

Name	Manufacturer	Type/Model	Serial Number	Calibration
				Last Cal.
Vector Network Analyzer	R&S	ZNB 8	106333	2022/5/16
Measurement Software	ETS-Lindgren	EMQuest 1.14	1474	N/A

Appendix A: Test results

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1. TEST CONDITIONS

1.1 Power supply (V)

Power supply (V) under test:

N/A

1.2 Temperature (ºC)

Tn = +22 to +28

The subscript n indicates normal test conditions.

1.3 Test frequencies and Output Power

In all required operating bands the measurements for Total Radiated Power (TRP) and Total Isotropic Sensitivity (TIS) measurements were performed on lowest, middle and highest channels defined by the standard [1]. Continuum of channels across each supported band was performed for Intermediate Channel Sensitivity (ICS) tests.

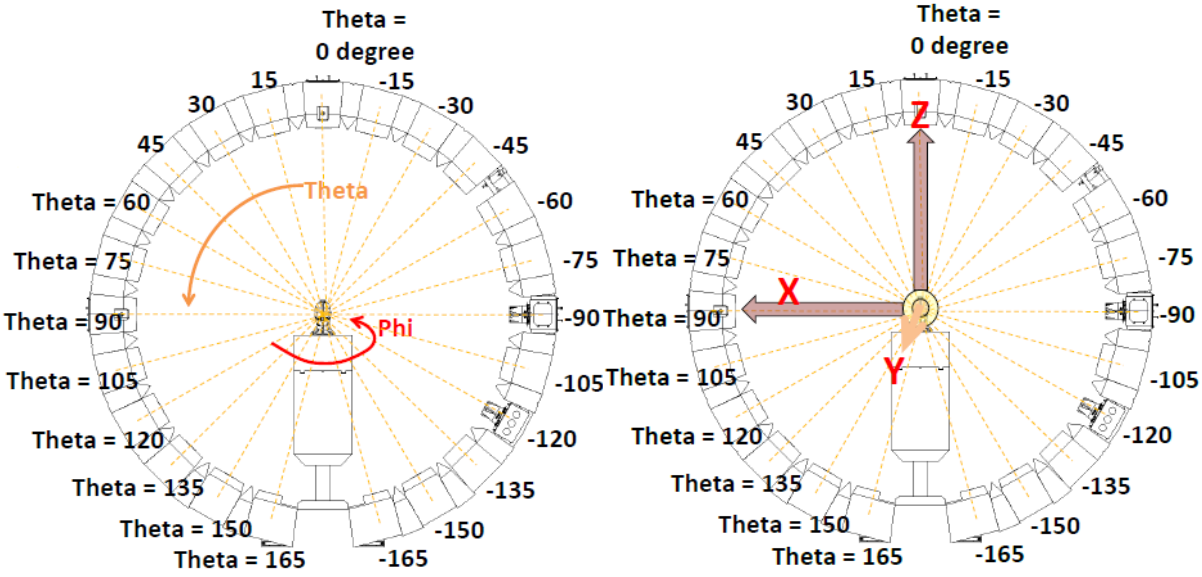
The output power of the device was set to maximum for all tests.

1.4 Device orientation and Setup Requirements

The EUT has only one mechanical configuration and it was tested in the scenario required by the standard [1]:

- "Free-space" configuration, whereby the EUT has been placed directly on a support.

The EUT is rotated along two different spherical axes: theta (θ) and phi (Φ). The relationship between the 3D Cartesian coordinate system (X, Y, Z) and the theta and phi axes is illustrated in the following figure.



- Locate the two rotational axes
  - Theta – the ring, multiple antennas
  - Phi – the turntable
- Define X,Y and Z directions
  - X – Theta = 90 degree
  - Y – Theta rotational axis
  - Z – Theta = 0 degree

2. TEST RESULTS

2.1 Summary

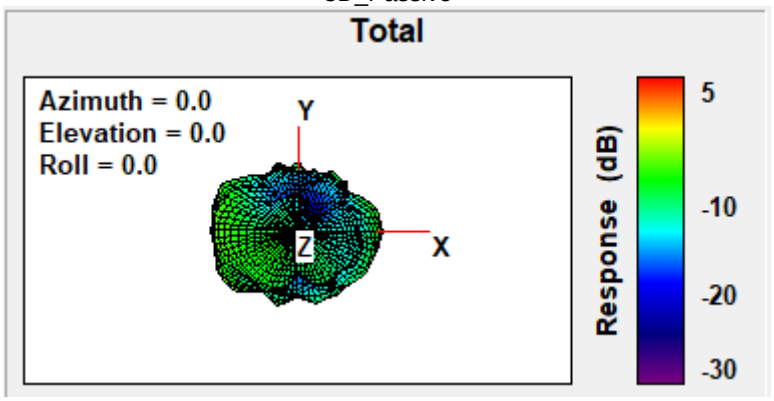
2.2 Antenna_Passive

3D_Passive_2402MHz-2480MHz

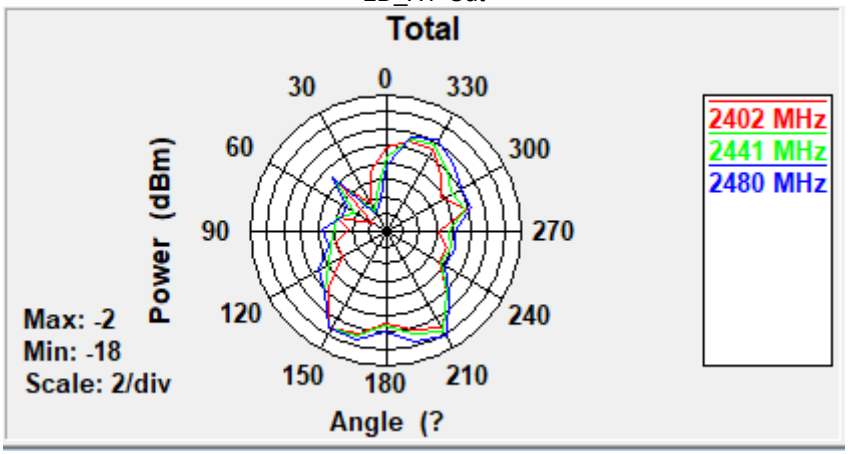
Frequency (MHz)	Tot. Rad. Pwr. (dBm)	Peak EIRP (dBm)	Directivity (dBi)	Efficiency (dB)	Efficiency (%)	Gain (dBi)	NHPRP ±Pi/4 (dBm)	NHPRP ±Pi/6 (dBm)
2402	-7.5	0.5	8.0	-7.5	17.7	0.5	-9.0	-10.9
2441	-7.3	0.7	8.0	-7.3	18.7	0.7	-8.8	-10.7
2480	-6.7	1.3	8.1	-6.7	21.2	1.3	-8.2	-10.1

2.3 3D Plots

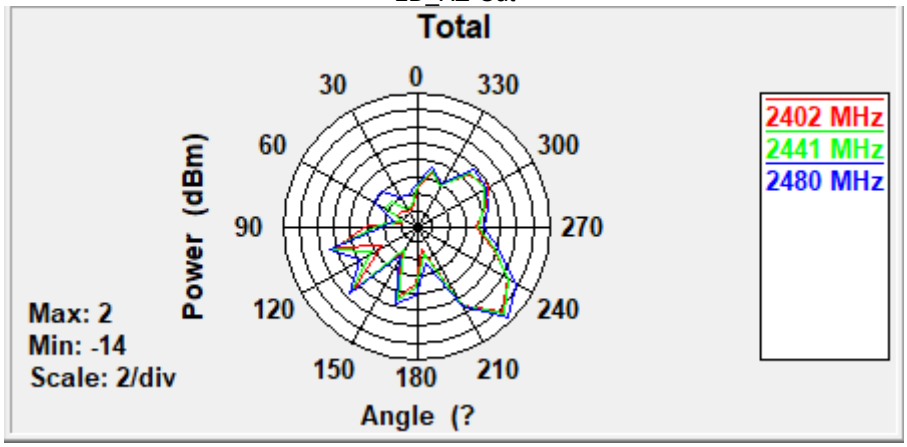
3D_Passive



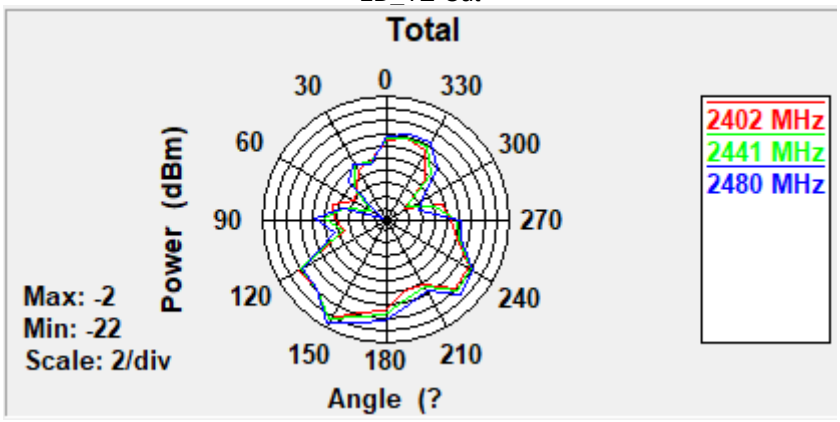
2D_XY-Cut



2D_XZ-Cut



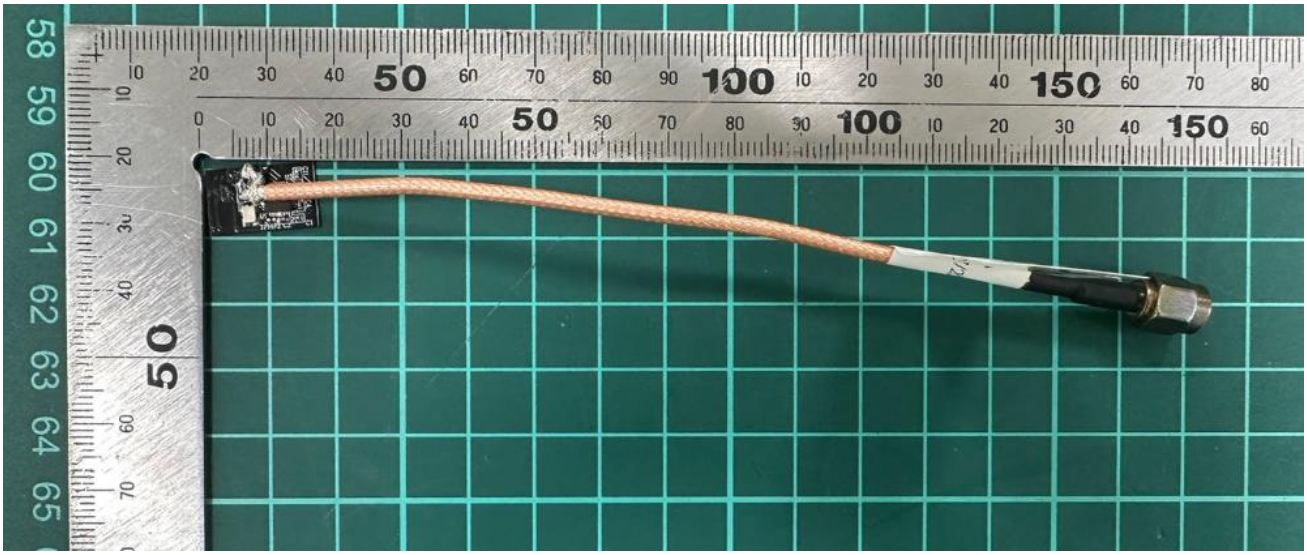
2D_YZ-Cut


Total
30
0
330
60
300
90
270
120
240
150
180
210
Power (dBm)
Angle (?
Max: -2
Min: -22
Scale: 2/div
2402 MHz
2441 MHz
2480 MHz

2.4 PHOTOGRAPHS

Equipment under test:

- **EUT front view:**



2.5 Test Setup